

REMARKS

This Amendment and Response to Final Office Action is being submitted in response to the final Office Action mailed June 12, 2006. Claims 1-21 are pending in the Application. Claims 1 and 8 are the independent claims.

The Specification is objected to due to minor informalities. Examiner believes that a substitute Specification is necessary.

Claims 1 and 8 are objected to due to minor informalities regarding amendment language that is a redundant limitation.

Claims 1-14 and 18-21 stand rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US 6,501,758).

Claim 15 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Bisson et al. (US 6,349,092).

Finally, Claims 16 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al.

In response to these rejections, the Claims have been amended herein, without prejudice or disclaimer to continued examination on the merits. These amendments are fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added. Based upon the amendments, reconsideration of the Application is respectfully requested, without further search, in view of the following remarks.

Objection to the Specification:

The Specification is objected to due to minor informalities. Examiner believes that a substitute Specification is necessary.

A substitute Specification is submitted with this Amendment and Response to Final Office Action. Applicant asserts that no new matter has been added.

Therefore, Applicant submits that the objection to the Specification has been traversed and respectfully requests that this objection be withdrawn.

Objection to the Claims:

Claims 1 and 8 are objected to due to minor informalities regarding amendment language that is a redundant limitation.

Claims 1 and 8 have been amended such that the language that is a redundant limitation has been omitted. The added limitation “of the payload portion of the at least one of the SONET data frames comprising the SONET layer” has been omitted from both Claims 1 and 8.

Therefore, Applicant submits that the objection to Claims 1 and 8 due to minor informalities regarding amendment language that is a redundant limitation has been traversed and respectfully requests that this objection be withdrawn.

Rejection of Claims 1-14, 18, and 19-21 Under 35 U.S.C. 102(e) - Chen et al.:

Claims 1-14, 18, and 19-21 stand rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US 6,501,758).

In response, Claim 1 has been amended to recite:

A method of allocating bandwidth capacity for data frames transmitted over a SONET ring, comprising the steps of:

subdividing a payload portion of at least one of the SONET data frames comprising a SONET layer into two or more logical channels, each logical channel having associated therewith a predetermined *or dynamically configured* bandwidth capacity;

assigning a predetermined *or dynamically configured* protection mechanism to each logical channel, wherein the predetermined *or dynamically configured* protection mechanism for each logical channel is balanced against bandwidth utilization requirements of grouped data frames that are grouped depending upon protection desired, and *wherein each logical channel can be assigned a different protection mechanism*;

monitoring the SONET ring transmission to determine a type of traffic carried by each logical channel and the protection mechanisms associated with each logical channel;

routing the data frames to one or more of various hardware switches depending upon the traffic type within each logical channel; and

sharing bandwidth amongst a plurality of nodes in a SONET network; and

wherein each SONET data frame includes a plurality of logical channels.

Similarly, Claim 8 has been amended to recite:

A network node for use in a SONET ring, comprising:

a first circuit configured to subdivide a payload portion of at least one of the SONET data frames comprising a SONET layer into two or more logical channels, each logical channel having associated therewith a predetermined *or dynamically configured* bandwidth capacity;

a second circuit configured to assign a predetermined *or dynamically configured* protection mechanism corresponding to a SONET protection level to each logical channel, wherein the predetermined *or dynamically configured* protection mechanism is balanced against bandwidth utilization requirements of grouped data frames that are grouped depending upon protection desired, and *wherein each logical channel can be assigned a different protection mechanism*; and

a third circuit operable to monitor the SONET layer to determine protection mechanisms associated with each logical channel,

a fourth circuit operable to route the data frames to one or more

of various hardware switches depending upon the traffic type within each logical channel; and

a fifth circuit operable to share bandwidth amongst a plurality of nodes in a SONET network; and

wherein each SONET data frame includes a plurality of logical channels.

These amendments are fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added.

Applicant asserts that Chen et al. do not disclose *subdividing a payload portion of at least one of the SONET data frames comprising a SONET layer into two or more logical channels*, each logical channel having associated therewith a predetermined *or dynamically configured* bandwidth capacity; assigning a predetermined *or dynamically configured* protection mechanism to each logical channel, wherein the predetermined *or dynamically configured* protection mechanism for each logical channel is balanced against bandwidth utilization requirements of grouped data frames that are grouped depending upon protection desired, and *wherein each logical channel can be assigned a different protection mechanism; routing the data frames to one or more of various hardware switches depending upon the traffic type within each logical channel; and sharing bandwidth amongst a plurality of nodes in a SONET network*. These aspects of the present invention being made clearer by the amendments made herein.

Examiner states that Chen et al. do not explicitly refer to grouped STS frames within a SONET frame as such. However, Examiner states that the Chen et al. disclosure clearly anticipates Applicant's amended claims. Applicant respectfully disagrees. Applicant has disclosed a method for partitioning SONET frames into logical channels to optimize bandwidth utilization. Applicant's disclosure clearly provides more than a mere method of transporting ATM mode cells and TDM information over a common fiber ring.

Chen et al. disclose a method wherein bandwidth is allocated between ATM and TDM traffic, a hybrid solution. Applicant, however, discloses a method wherein bandwidth is allocated based on *two or more logical channels*. Furthermore, the management of

bandwidth allocation is *based on management of a plurality of logical channels, each logical channel containing two or more STS paths, not the management of each STS path individually.* A logical channel, as disclosed by Applicant, is not the same as an individual STS path as Examiner asserts. Thus, Applicant's method is not a mere hybrid solution, accommodating only two data types (ATM and TDM), but rather is *a multiple logical channel method wherein each logical channel can be assigned to a different data type and a different protection level.* Additionally, the size (in number of STS frames) and functionality (protection level and protocol support) of each logical channel is predetermined or dynamically configured. Chen et al. do not disclose dynamic configuration, but rather disclose the predetermined use of only two protection mechanisms, VP APS for STS/ATM and UPSR for STS/TDM.

Therefore, Applicant submits that the rejection of Claims 1-14, 18, and 19-21 under 35 U.S.C. 102(e) as being anticipated by Chen et al. has been traversed and respectfully requests that this rejection be withdrawn.

Rejection of Claim 15 Under 35 U.S.C. 103(a) - Chen et al. and Bisson et al.:

Claim 15 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Bisson et al. (US 6,349,092).

Claim 15 is dependent on Claim 8. In view of the arguments above, Applicants submits that the rejection of Claim 15 under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Bisson et al. has been traversed and respectfully requests that this rejection be withdrawn.

Rejection of Claims 16 and 17 Under 35 U.S.C. 103(a) - Chen et al.:

Claims 16 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al.

Claims 16 and 17 are dependent from Claims 1 and 8. In view of the arguments above, Applicant submits that the rejection of Claims 16 and 17 under 35 U.S.C. 103(a) as being unpatentable over Chen et al. has been traversed and respectfully requests that this rejection be withdrawn.

CONCLUSION

Applicant would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

Date: August 11, 2006



Christopher L. Bernard
Registration No.: 48,234
Bradley D. Crose
Registration No.: 56,766
Attorneys for Applicant(s)

DOUGHERTY | CLEMENTS
1901 Roxborough Road, Suite 300
Charlotte, North Carolina 28211 USA
Telephone: 704.366.6642
Facsimile: 704.366.9744
cbernard@worldpatents.com